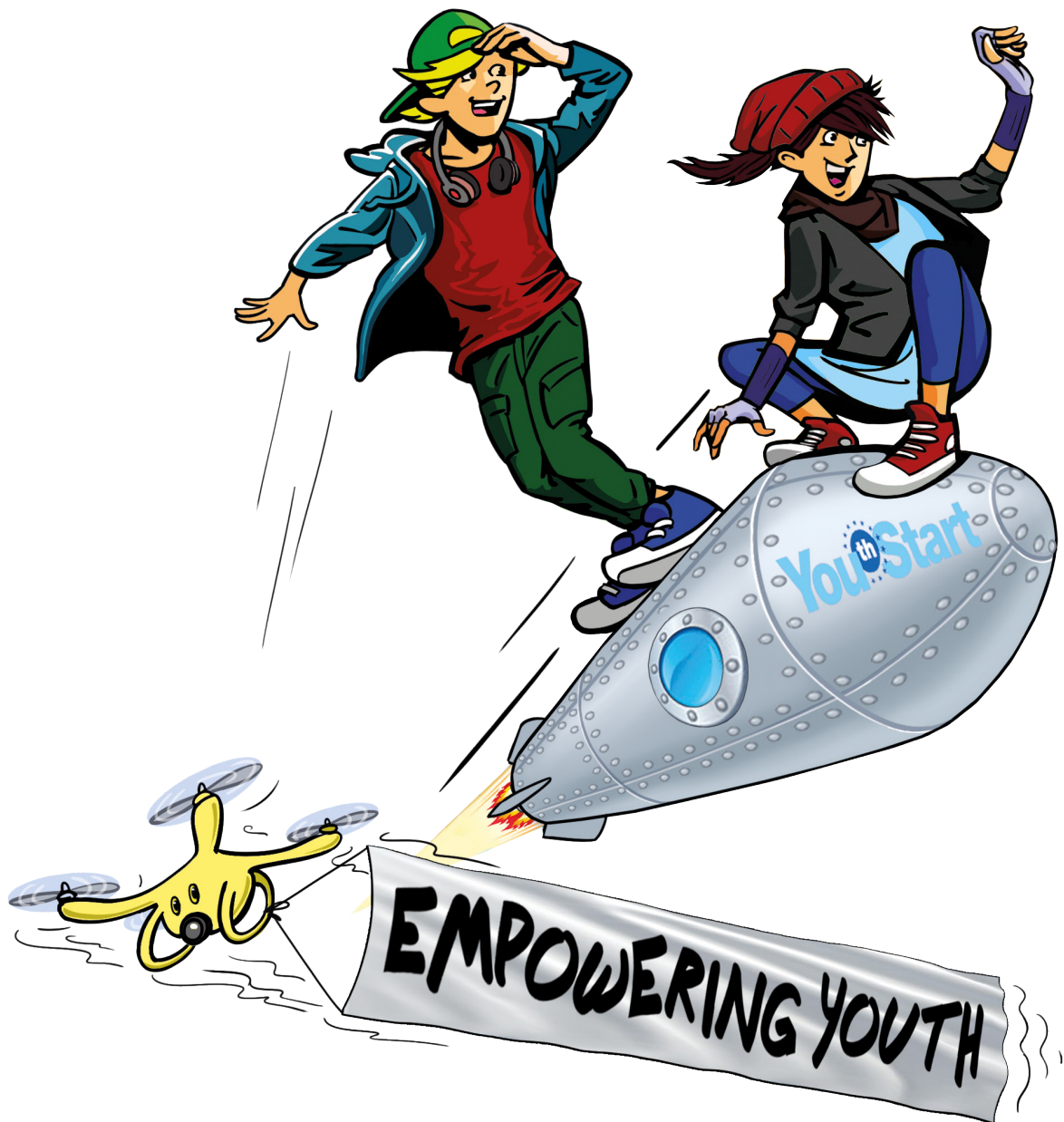




A2 Trash Value Challenge

Mindful waste management Teacher Guide



Eva Jambor • Ingrid Teufel

All Challenges of level A2 are also available in a printed version in German. You can find them at www.jugendstärken.at (Jugend stärken, volume 1 - 4).



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Empowering Youth with the Youth Start Entrepreneurial Challenges Programme

CORE ENTREPRENEURIAL EDUCATION

 IDEA CHALLENGE I can develop an idea.	 HERO CHALLENGE I can learn from role models.
 MY PERSONAL CHALLENGE I can solve personal challenges.	 LEMONADE STAND CHALLENGE I can sell things.
 REAL MARKET CHALLENGE I can develop a business plan for the market.	 START YOUR PROJECT CHALLENGE I can plan and implement my project with a team.

ENTREPRENEURIAL CULTURE

 EMPATHY CHALLENGE I can empathise with myself and with others.	 STORYTELLING CHALLENGE I can tell stories.	 BUDDY CHALLENGE I can support others in achieving their goals.
 PERSPECTIVES CHALLENGE I can understand I am part of my environment.	 TRASH VALUE CHALLENGE I can create something valuable out of garbage.	 OPEN DOOR CHALLENGE I can network with others.
 EXTREME CHALLENGE I can set and achieve difficult goals.	 BE A YES CHALLENGE I can say "yes" to myself and those around me.	 EXPERT CHALLENGE I can apply learning and communication techniques.

ENTREPRENEURIAL CIVIC EDUCATION

 MY COMMUNITY CHALLENGE I can do things for the community where I live.	 VOLUNTEER CHALLENGE I can engage in community service.	 DEBATE CHALLENGE I can develop and debate my opinion.
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The Youth Start Entrepreneurial Challenges Programme is based on the TRIO Model, which is a holistic definition of entrepreneurship that encompasses three areas:

- CORE ENTREPRENEURIAL EDUCATION** – Supports entrepreneurial qualification in a narrow sense: developing own ideas and implementing them creatively and in a well-structured way.
- ENTREPRENEURIAL CULTURE** – Personal development: self-initiative, self-confidence, teamwork, empowering oneself and others.
- ENTREPRENEURIAL CIVIC EDUCATION** – Enhancing social competences as citizens: assuming responsibility for oneself, others and the environment.

"Empowering Youth" is a holistic learning programme for lower secondary school students and promotes personal initiatives and entrepreneurial spirit. It is part of the "Youth Start Entrepreneurial Challenges" programme. All competence levels (A1 = primary level, A2 = lower secondary level, B1+B2 = upper secondary level) can be downloaded at www.youthstart.eu in English, German and other languages. The "Mind & Body" section provides short video clips with physical "activate & concentrate" exercises and the "Youth Start mindfulness programme".



Empowering Youth ...

... refers to the title, the goal and the content of a practice-oriented, holistic learning programme which was developed for **lower secondary school** students. Bigger and smaller “**challenges**” form the key element of the programme. They function as learning prompts in three key areas that play an important role in empowering young people:

- entrepreneurial thinking and acting,
- personal development and
- social commitment.

Each key area is assigned a different color to help differentiate between them. A diagram of the entire programme is included at the beginning of this document.



Empowering Youth is part of the “**Youth Start Entrepreneurial Challenges**” Programme, which aims to foster personal initiative and the entrepreneurial spirit of young people. It was developed in Austria for both primary and secondary school students, and it has been translated into six languages.



Mindful waste management is becoming more and more important. In the **A2 Trash Value Challenge** the students learn from the past. They also think about how we can prepare for the future by avoiding, sorting and UPcycling waste today. New value can be created from waste materials – if we use them responsibly and mindfully and if we all contribute!

The “Youth Start Entrepreneurial Challenges” Programme supports children in developing their potential.

This was proven by a scientific field study which was carried out from 2015 to 2018 in Austria, Slovenia, Portugal, and Luxembourg with about 30,000 children and teenagers.

The research results demonstrate that by working with the programme in lower secondary school, the adolescents’ self-esteem is improved, and teamwork, creativity, and networked and critical thinking are fostered.

The students do not only learn how to communicate empathically and how to treat themselves and others with care and respect; they additionally acquire basic economic qualifications that are vital for their future working life.

We wish everyone working with this programme many inspiring learning experiences!

Eva Jambor and Johannes Lindner, editors

www.youthstart.eu | www.jedekindstärken.at | www.ifte.at



A2 Trash Value Challenge

Mindful waste management

In the **A2 Trash Value Challenge** the students explore the topic of waste in the past, present and future.

They think about how waste can be avoided, sorted and **UP**cycled and they are encouraged to create new value from waste materials (preferably residual waste). A Trash Value Festival makes for creative ways of inspiring others to take a critical look at the topic and to work together to achieve **mindful waste management**.

Core competence of the challenge:

I can use resources mindfully and create something valuable out of waste materials.

Explanatory video for the challenge:

www.youthstartchallenges.eu/A2TrashValueEN



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Big idea behind the challenge

The aim of the challenge is to raise awareness among the students for mindful resource management. By exploring the questions below, they can gain expertise in environmental issues and waste management:

- How did people manage waste in different historic periods?
- Which problems are caused by waste in our consumer society?
- How can each of us contribute to avoiding waste?
- How can waste be sorted and recycled?
- How can we avoid producing unrecyclable waste in the future, thereby realising a circular economy as envisioned in the Global Goals?

The students implement their own creative ideas with waste and decide how they want to contribute to waste avoidance and the meaningful **UP**cycling of waste in the future.

Entrepreneurial Competences according to the reference framework www.youthstart.eu/en/whyitmatters/ (Competence-oriented learning)

- I can observe myself and my environment mindfully and act according to the needs I perceive.
- I can look at a topic from different points of view and put myself in the shoes of others.
- I can set goals for myself and plan the necessary steps to achieve them.
- I can take on the responsibility for achieving a joint goal.
- I can take on responsibility for my tasks when working in a team and follow the agreed rules.
- I can find arguments to support my opinion, present them in a discussion and accept differing opinions.
- I can present my ideas and stories in an oral or written form.
- I can take on responsibility for the community I live in.
- I can identify ways I can use my strengths to contribute to creating a sustainable future.
- I can create something useful from used objects.

Assessment

The Student Manual also invites the students to assess their own creative learning progress towards “environmental and waste management competence”: They learn step by step how each of us can contribute to mindful waste management and how we can create value from waste materials.

As in every challenge, the final step (“Thinking things over”) uses questionnaires to encourage students to assess the competences they have acquired and reflect on their performance.

Preparation for all steps:

Hand out the student manual containing the exercises for the individual steps to all students.



The titles of the exercises are labelled “E”.



Step 1 – Going back in time

E 1.1. A brief history of waste

Humans have been generating waste throughout their history. How has our waste management changed over time? What worked well in the past and what didn't? When and how did our ancestors even surpass our achievements? What can we learn from the past?

You can use the **"Time Travel: Trash"** index cards (5 learning stations, see copy templates) for an extensive exploration of the topic.



Copy the cards onto stiff cardboard or laminate them. The cards can be used for individual student assignments or for setting up learning stations on project days (with several classes).



Ask the students to conduct their own research on the past and present of waste management, e.g. using the following websites:

- History of waste management: <https://environmentalchemistry.com/yogi/environmental/wastehistory.html>
- Waste in the past, present and future: <https://sustainingourworld.com/2011/09/22/the-past-present-and-future-of-solid-waste-disposal/>
- Sewer systems in Ancient Rome (information on the Cloaca Maxima and aqueducts): https://en.wikipedia.org/wiki/Cloaca_Maxima https://en.wikipedia.org/wiki/Roman_aqueduct
- Sewers in the Middle Ages: <http://www.sewerhistory.org/time-lines/tracking-down-the-roots-of-our-sanitary-sewers/part-2-the-middle-ages/>
- What may be flushed down the toilet and what not?: <https://thinkbeforeyouflush.org/what-to-flush/>

E 1.2. Waste interview: What was it like in the old days?

The students interview people over 60 and ask them about their childhood memories regarding waste management.



The students can learn how to implement an interview project step by step in the **A2 Volunteer Challenge – Doing good feels good**, where they interview volunteers to find out more about the different reasons why people like helping others and how the students can become active as volunteers themselves (free download at http://youthstart.eu/en/challenges/doing_good_feels_good/).

To conclude your trip back in time, philosophise about the following sentence in class:

If many people in many places take many little steps, they can alter the face of the world.

What does it have to do with waste?

Step 2 – Avoiding waste

E 2.1. The "three Rs"

The "three Rs" can help us achieve a mindful management of our planet's limited resources.

- 1. REDUCE:** Our top priority must be to avoid waste.
- 2. REUSE:** If waste cannot be avoided, materials should be reused or recycled.
- 3. RECYCLE:** Waste that is not disposed of properly becomes a burden to the environment. (The students learn about recycling and UPcycling in **Step 3: Sorting waste** and **Step 4: UPcycling waste**)



E 2.2. How can waste be avoided?

Much waste can be avoided by making conscious buying choices.

The Waste Avoidance Pyramid presents **alternatives to purchases**: use what you have; take good care of your things; repair things (or have them repaired); lend, borrow and exchange things; make things yourself or buy them used – **buy new things only if there is no alternative!**



The students can decorate the pyramid, for instance with creative symbols, and use it for a poster for the **Trash Value Festival** (see Step 6, **E 6.10.**) or for the classroom. They can also create an explanatory video or a PowerPoint presentation with the tips from the pyramid.

- Source for the Waste Avoidance Pyramid and the tips for waste avoidance:
www.wien.gv.at/umweltschutz/abfall/vermeidung/ (in German)
- Tips for avoiding packaging waste – 100 Steps to a Plastic-Free Life:
<https://myplasticfreelife.com/plasticfreeguide/>

E 2.3. How much does “your” trash weigh?

The aim is for everybody to contribute to avoiding waste. As a first step, the students reflect on their own waste management and weigh the trash generated by their families – according to statistics, each person in the EU generates about 1 kg of waste per day. Can this be true?

E 2.4. A rubbish breakfast

The exercise “A rubbish breakfast” is another way to look at the amount of waste that each of us generates daily. Organise a class breakfast, asking every student to bring something. How much waste is left behind after the breakfast?

Use this as a starting point to reflect on what kinds of waste could be avoided in what way. The students research online and try to answer the questions in the Student Manual.

Alert the students to the danger of fake news on the Internet.

How can they identify sites as trustworthy?
You can find explanatory videos online:

- What is fake news?: www.youtube.com/watch?v=9zECdW-A-rQ
- Tips for spotting fake news: www.youtube.com/watch?v=D0Cd9-eJ-No



In the Teacher Guide for the **A2 My Personal Challenge: Less risk – More fun** you can find the game “**Fake News Alert**” (with a fake news fact sheet) in the copy templates as well as many tips and materials on fake news in the background information for E 1.3: “Safe Internet Browsing”.

Go to http://youthstart.eu/en/challenges/less_risk_more_fun/ for a free download.

E 2.5. A success story about waste

According to data provided by the UN, approximately 13,000 pieces of plastic per square kilometre are floating in our oceans. They are spread all over the world by ocean currents. How can each of us contribute to changing this situation?

- Video “What really happens to the plastic you throw away / Life of a Plastic Bottle”:
www.youtube.com/watch?v=_6xINyWPpB8 (ca. 4 min.)



What does our waste have to do with plastic in the ocean?

We recommend watching the following video: www.youtube.com/watch?v=3EgyvqMXODc ("A Plastic Ocean", kids' version, ca. 3 min.)

or looking at the informational diagram "Trash in the Sea" in the copy templates (source: www.bmu-kids.de/wissen/boden-und-wasser/wasser/meeresumweltschutz/plastikmuell-im-meer, in German).

The garbage patches in the sea are where Boyan Slat's success story begins. He developed an ocean clean-up system when he was still in school. Now, he is the CEO of his own company.

The exercise contains many creative ideas to inspire the students to take a closer look at Boyan Slat's story: writing newspaper articles on the topic; coming up with interview questions for Boyan Slat; acting out the interview as a role play; creating an environment quiz on the topic, etc.

The environment quiz and the newspaper articles can be presented at the **Trash Value Festival** (see Step 6, **E 6.10.**). The quiz can also be played with students from other classes.

E 2.6. Waste experiment: A day without plastic

The following two videos are a good way to start a discussion or introduce the idea of a plastic-free day:

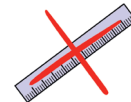
→ "10 Simple Ways To Reduce Plastic Use – For Kids!": www.youtube.com/watch?v=XVUux3boWk (ca. 4 min.)

→ "The Story of a Spoon": www.youtube.com/watch?v=eg-E1FtjaxY (ca. 2 min.)

The experiment "A day without plastic" begins with a day of preparations in which the students observe and write down which plastic objects they use when and for what purpose during one day. In the evening, they think about what they could well do without.

After a plastic-free day, on which they try to do without any kind of plastic, the students reflect:

- What were they NOT able to replace by a non-plastic object?
- What was replaced by what (= INSTEAD list)?



The INSTEAD list is intended as a training in creativity and allows for many different solutions.

Step 3 – Sorting waste

E 3.1. Waste research

What kind of waste makes up the biggest part of the waste generated at home and in school?

Is this waste disposed of correctly?

You can find a **waste checklist** and other waste research ideas in the **"Trash Detective" cards** in the copy templates (e.g. **"Reckoning" at the hot dog stand**).

E 3.2. Creative waste sorting

To make sure waste is sorted correctly, the students make additional waste bins (if needed) for the classroom or for their homes. They design them creatively and label them clearly. Ask the students to come up with funny inscriptions for their bins. If your local municipalities use witty labels on their public waste containers, ask the students to look for these slogans. Creative containers and inscriptions in the public sphere may also be photographed.

These photographs, the students' own slogans and any pictures of their self-made containers can be used to make a collage for the **Trash Value Festival** (see Step 6, **E 6.10.**). The students can also sell creative waste bins at the festival.





E 3.3. Sorting waste pays off!

By sorting and recycling waste correctly we can spare natural resources, help save energy and contribute to climate protection.

In this exercise, the students learn how to sort waste correctly so that it can be recycled. Please note that the details of sorting and recycling rules may differ locally. You can research local rules online or contact your municipal authorities for information.

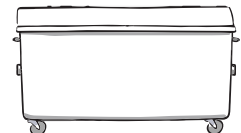
→ General EU waste legislation: <https://www.municipalwasteeurope.eu/summary-current-eu-waste-legislation>

Solutions for the exercise:

- | | |
|-----------------------------------|---|
| • Bottle bank: | glass bottles, jam jars, pickle jars, crystal tableware |
| • Wastepaper container: | newspapers, cardboard, exercise books, books, catalogues, magazines * |
| • Scrap metal container: | cans, bottle caps, tin lids, tin foil |
| • Plastic waste container: | PET bottles, laundry detergent bottles, yogurt cups |
| • Organic waste bin: | ashes, tea bags, cut flowers, fruit and vegetable waste, food leftovers |
| • Electronic waste: | computers, mobile phones, TV sets, toasters |
| • Hazardous waste: | chemicals, prescription drugs, plant protection, paint and varnish, cleaning agents, batteries, mineral oil |
| • Bulky waste: | bathtubs, furniture and furniture components |
| • Residual waste: | greaseproof paper, hygiene products, mirror glass, crisps & snack packaging, cat litter, light bulbs |

* Ask the students to research which kinds of paper may be put in the wastepaper container and which not. The paper should not be too filthy (used tissues or kitchen paper should for instance be put into residual waste bins), glossy paper (e.g. some magazine covers) or paper with adhesive coating should be put into plastic waste containers or residual waste bins.

You can also find a **Trash Tile Game** with these waste categories in the copy templates. The students can add as many cards as they like with other kinds of waste that is frequently generated at home or in school. The tile game contains a poster with important waste sorting rules for the classroom.



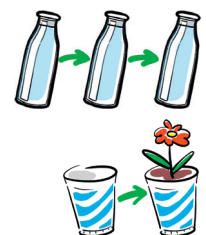
Step 4 – UPcycling waste

E 4.1. What can be UPcycled how?

This exercise gives an overview of ways to **UP**cycle waste.

UPcycling means creating something of **VALUE** out of waste.

- The primary goal must be to avoid waste
- If waste cannot be avoided, used things should be reused.
- If this is not possible, waste should be recycled. (This is possible only if it has been sorted correctly!!!)
- Burning waste is another way to **USE** waste, because it produces energy (but also toxic gases ...).
- Residual waste disposal: Things that cannot be **USED** nor **UP**cycled end up on landfills.



E 4.2. Waste management and the circular economy

The circular economy presents an alternative to the throw-away society.

In a circular economy, materials and products are reused, repaired and processed as often as possible.

This is much better for the environment than producing everything from scratch!

The EU's circular economy agenda:

The EU is planning to recycle up to 50 % of plastic by 2025, and 55 % by 2030.



Recycling can also be a viable business model. A German materials manufacturer uses plastic waste and other waste materials to create innovative products:

→ Video “Circular Economy – Closing the Loop”

www.covestro.com/en/sustainability/what-drives-us/circular-economy (ca. 3.5 min.)

Ask the students to research further business ideas online, e.g. by entering the search terms “plastic” and “circular economy”.

→ For start-ups and projects that aim to end plastic waste see for instance:

<https://www.plugandplaytechcenter.com/end-plastic-waste/>

In order to acquire digital competences, the students should practise using the Internet for meaningful purposes as often as possible, which is why we recommend regularly assigning independent research tasks to the students.



Put up the fact sheet from the game “Fake News Alert” in the classroom (see copy templates for the **A2 My Personal Challenge: Less risk – More Fun**, free download at http://youthstart.eu/en/challenges/less_risk_more_fun/) or ask the students to make their own poster with tips on how to identify fake news:

www.youtube.com/watch?v=D0Cd9-eJ-No; www.factcheck.org/2016/11/how-to-spot-fake-news/

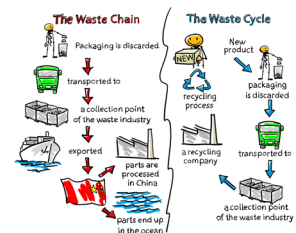


E 4.3. Waste chain or waste cycle?

How does a waste cycle differ from a waste chain?

The diagram in the Student Manual illustrates the differences.

Discuss the pros and cons of both systems in class, letting the students exercise their creative abilities and problem-solving skills.



Suggested solutions:

Waste cycles are better for the environment, e.g. because waste is recycled to create new products. / ... because no waste products are dumped in the ocean. / ... because no waste is exported.

(The last item is true only for countries with adequate recycling systems.)

Permit any plausible student ideas!

Together with the students, sketch the waste cycle of one or several products, e.g. a plastic fork, a newspaper, a food can.

The students can create their own pictographs and use them for a poster, a PowerPoint presentation or a short explanatory video. They can present their creations at the **Trash Value Festival** (see Step 6, **E 6.10.**).

Step 5 – Travelling to the future

E 5.1. Waste cycles and circular economy as “Global Goals”

The 17 Sustainable Development Goals are political goals formulated by the United Nations and intended to guarantee global sustainable development on economic, social and ecological levels. They entered into force on 1 January 2016 with a 15-year term of implementation, which means that they should be achieved by 2030. Therefore, the *Global Goals* or *Sustainable Development Goals* (SDGs) are also known as “Agenda 2030”.

Waste cycles and a circular economy play a major role, especially for goals 11 (sustainable cities and communities), 12 (responsible consumption and production) and 14 (life below water).



Effective waste cycles and a circular economy also contribute to achieving further goals, such as goal 3 (good health and well-being), goal 8 (decent work and economic growth) and goal 13 (climate action).

The students read through the explanations for goals 11, 12 and 14 in the Student Manual and try to explain the goals to others in simplified terms.

E 5.2. Which goal is more important?

The students rank the 3 goals according to importance and give reasons for their decision.

E 5.3. Reflecting creatively on the goals ...

In this exercise, the students match 5 quotes to the 3 goals and give reasons for their decision. One quote may match several goals. The students design creative posters with their favourite quotes.

Suggested solutions:

- You can't dispose of waste you don't see. – SDGs 11 + 12
- The packaging industry is so creative that it is no coincidence waste volumes keep increasing. – SDGs 12 + 14
- Be yourself the change you want to see in the world. – SDG 12
- The biggest threat for our planet is the belief that somebody else will save it. – SDGs 12 + 14
- Shouldn't we start producing something more meaningful than too much trash? – SDGs 11, 12 + 14

The students can use their ideas from **Exercises 5.1.–5.3.** to create posters for the classroom or the **Trash Value Festival** (see Step 6, **E 6.10.**), as well as PowerPoint presentations or explanatory videos for the selected 3 or all of the 17 SDGs.



The **A2 My Community Challenge – The 17 Sustainable Development Goals and how to contribute** discusses the SDGs in detail and encourages the students to become active themselves. You can download the challenge for free at http://youthstart.eu/en/challenges/the_17_sustainable_development_goals_and_how_to_contribute/.

Take the students on an imaginary journey into the year 2050 with a mindfulness meditation and ask them to envision the future in their minds as clearly as possible:
What do they see, hear, smell, taste and touch? How do they feel?



Use the wheel of mindfulness from the training programme “Why Mindfulness?”. You can download the programme for free at www.youthstart.eu in the Mind & Body section, where you will also find short videos of students in Vienna practising the mindfulness programme.

Once the students have mentally arrived in the year 2050, they draw a **“Waste in the Future” picture** and write an **optimistic** and a **pessimistic “Waste in the Future” story**. Discuss with the students how each of us can contribute to making the optimistic version a reality.



The students can use their pictures and stories to create a **“Trash Science Fiction” blog**. They can check it regularly to see which of their predictions have come true and how they can contribute to the realisation of optimistic future scenarios.

All creative results of **E 5.3. Reflecting creatively on the goals ...** can also be presented at the **Trash Value Festival** (see Step 6, **E 6.10.**).



Step 6 – Implementing creative ideas with waste

You can find two additional creative ideas in the section **A creative look at trash** in the copy templates (*ABC-list of words about “waste avoidance” and words that rhyme with trash*).

E 6.1. Philosophising about waste

E 6.2. What if ...

Philosophise with your students as often as possible – it improves their critical thinking skills!

E 6.3. Telling trash stories ...

The students go on a photographic safari, using their smartphones to capture waste in the public sphere. Their photos serve as starting points for trash stories, e.g. a story about being thrown away (from the point of view of a piece of trash) or an interview with a piece of trash about how it came to be thrown away.

- Who threw away the waste?
- How long has it been lying there?
- What was its purpose before it was thrown away?

The stories (and photographs) are collected in a waste book or waste blog and can be presented at the **Trash Value Festival** (see Step 6, **E 6.10.**).



You can find much inspiration for philosophising and for telling, writing and acting out stories in the **A2 Storytelling Challenge – Creative Stories** (free download at http://youthstart.eu/en/challenges/creative_stories/).

E 6.4. Waste debate

The students can explore the topics of waste avoidance and waste sorting in greater detail by debating pros and cons, e.g. starting with the question:

Should people sort their waste?

The students come up with questions for the debate themselves. Each question starts with **SHOULD**.

If students are randomly assigned to the “pro” and “con” teams, they may have to represent an opinion they don’t share, which can help them learn to adopt different perspectives. This is a good way to practise respecting and understanding others.



The students can practise debating and finding arguments in the **A2 Debate Challenge – From listening to debating** (go to http://youthstart.eu/en/challenges/from_listening_to_debating/ for a free download.)

E 6.5. Waste avoidance plea

In class, the students write an appeal to avoid waste and put it up where many people can see it – of course, it can also be displayed at the **Trash Value Festival** (see Step 6, **E 6.10.**).

E 6.6. Trashy rhythms

Items of packaging waste are cleaned and used as percussion instruments. In class, the students create a hit song with “trashy rhythms” and use their smartphones to record their jam sessions. The resulting audio files could be the ideal soundtrack for any videos the students create on the topic of waste.

E 6.7. Listening to... trash (mindfulness exercise)

Trash materials can also be used for a mindful listening exercise.



The students take turns dropping clean items of packaging waste on the floor, while the others try to guess with their eyes closed what kind of packaging has been dropped.



You can find further mindfulness exercises in the “Why Mindfulness?” training programme, which can be downloaded for free in the Mind & Body section at www.youthstart.eu.

E 6.8. A sporty way to pick up litter ...

“Plogging” (picking up litter while walking or jogging) combines physical exercise with environmental protection.

- You can also use plogging apps to collect data on where rubbish is found (e.g. the free app “Go Plogging”: <https://apps.apple.com/us/app/go-plogging/id1426236544>).

E 6.9. Creating value from trash ...

Over a period of 3 days, the students collect (clean) packaging waste and bring it to school.

They take a critical look at each packaging and reflect on whether it is oversized, whether there are any environmentally friendly alternatives, etc.

The students use the packaging waste to create useful objects or works of art, which they can present at the **Trash Value Festival** (see Step 6, E 6.10.).

You can find tips for the attractive description and presentation of objects and for giving respectful feedback in the copy template **Presenting UPcycling objects**.



The objects can also be sold. The students can learn all about selling things in the **A2 Lemonade Stand Challenge – Be part of a sales team!** (free download at http://youthstart.eu/en/challenges/be_part_of_a_sales_team/)

E 6.10. Organising & hosting a Trash Value Festival

At a Trash Value Festival, the students can present everything they have learned and created on the topic of waste.

The class at first decides what they want to tell visitors at the festival and how they can present their messages most effectively. Together, they plan the festival step by step and assign tasks within the team. Make sure the students contribute their personal strengths.

The most important messages are summarised on promotional posters, in short texts for online ads (e.g. for the school website or social media channels) or in a promotional video.

Step 7 – Thinking things over

E 7.1. How well can you do that already?

The questionnaire lists essential competences that the students have practised in the challenge. The students assess their own performance. Discuss the meaning of the symbols before the students fill in the questionnaire.

E 7.2. Questionnaire for the Trash Value Challenge

As in every challenge, a final questionnaire with open-ended questions encourages the students to reflect on their learning progress. The students summarise their personal findings from the challenge in their answers. Ask the students to discuss their answers in pairs or in class.



TRIO model for Entrepreneurship

According to the TRIO Model, a holistic definition of entrepreneurship, the Trash Value Challenge belongs to the area of **Entrepreneurial Culture**, which is all about personal development: acting on one's own initiative, believing in oneself, working as a team, acting empathetically and encouraging oneself and others.

Time/Length of the challenge

You can either focus on individual parts of the challenge or work through all parts more or less extensively. Thus, you can decide for yourself how much time you want to dedicate to the challenge.

The challenge is very well suited for cross-curricular periods or for project days / weeks in the following subjects: languages (e.g. English), history and social studies, economics, arts, handicrafts, music, sports and physical exercise as well as social learning.

Necessary background knowledge

none

Context within the "Youth Start Entrepreneurial Challenges" Programme

All challenges: www.youthstart.eu

The "A2 Trash Value Challenge" builds on the "A1 Trash Value Challenge: Recycling adds Value – New Creations from the Rubbish Bin" (at http://www.youthstart.eu/en/challenges/recycling_adds_value_new_creations_from_the_rubbish_bin/) and prepares the students for the "B1 Trash Value Challenge – Increase Value with Upcycling". It has close correlations with the following challenges: "A2 Volunteer Challenge – Doing good feels good" (at http://www.youthstart.eu/en/challenges/doing_good_feels_good/), "A2 My Community Challenge: The 17 Sustainable Development Goals and how to contribute" (at http://www.youthstart.eu/en/challenges/the_17_sustainable_development_goals_and_how_to_contribute/), "A2 Debate Challenge – From listening to debating" (at http://www.youthstart.eu/en/challenges/from_listening_to_debating/), "A2 Storytelling Challenge – Creative Stories" (at http://www.youthstart.eu/en/challenges/creative_stories/) and "A2 Lemonade Stand Challenge – Be part of a sales team!" (at http://www.youthstart.eu/en/challenges/be_part_of_a_sales_team/).

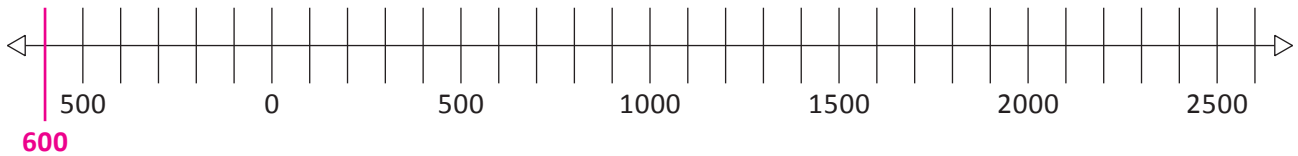
The challenge also correlates with the training programmes "Why Mindfulness?" and "Learning holistic learning" (for both view the "Mind & Body" section at www.youthstart.eu).

Additional materials

- Video "A Plastic Ocean" (kids' version): www.youtube.com/watch?v=3EgyvqMXODc (ca. 3 min.)
- Video "What really happens to the plastic you throw away / Life of a Plastic Bottle": www.youtube.com/watch?v=6xINyWPpB8 (ca. 4 min.)
- Video "10 Simple Ways To Reduce Plastic Use – For Kids!": www.youtube.com/watch?v=XVUux3boWk (ca. 3 min.)
- Video "The Story of a Spoon": www.youtube.com/watch?v=eg-E1FtjxY (ca. 2 min.)
- Videos and lesson plans on the topic of waste: www.norwexmovement.com/kids/videos-lesson-plans/
- Information on sewers and wastewater: <http://www.sewerhistory.org/>; <https://thinkbeforeyouflush.org/what-to-flush/>
- History of waste management: <https://environmentalchemistry.com/yogi/environmental/wastehistory.html>
- Waste in the past, present and future: <https://sustainingourworld.com/2011/09/22/the-past-present-and-future-of-solid-waste-disposal/>
- Tips for reducing waste: <https://www.epa.gov/recycle/reducing-waste-what-you-can-do>
<https://ksenvironmental.com.au/10-tips-on-how-to-avoid-or-reduce-waste/>
- More tips for avoiding packaging waste – 100 Steps to a Plastic-Free Life: <https://myplasticfreelife.com/plastic-freeguide/>



Time Travel: Trash (learning station 1)



Waste in Ancient Rome, ca. 600 BC

The city was very popular and had many inhabitants. It was very hot in summer.

A solution had to be found for leftover food and used, dirty water. People had realised that waste which was left in the streets polluted the groundwater, which in turn could lead to the spreading of diseases. This is why they built sewers that ended in a big channel called the Cloaca Maxima.

Through this system, refuse and wastewater could be conducted into the Tiber River.

→ Do you want to learn more about this?

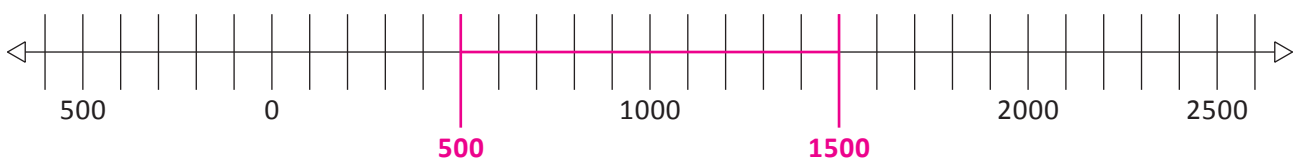
You can enter “Cloaca Maxima” into a search engine. You can also find information and pictures at:

https://en.wikipedia.org/wiki/Cloaca_Maxima



A2 Trash Value Challenge – Time Travel: Trash

Time Travel: Trash (learning station 2)



Middle Ages, ca. 500 to 1500 AD

In the Middle Ages, rubbish and wastewater were simply discarded in the streets. Excrement from free-roaming livestock was also left in the streets. Much of this waste seeped into the ground and reached the water of wells and rivers. Polluted drinking water led to the spreading of diseases.

This is why people began to collect rubbish. It was either buried or heaped into piles. These rubbish piles produced toxic gases. Rats and other animals nested in the piles and transmitted dangerous diseases.

Things that were broken were not thrown away but repaired or used to create new things.

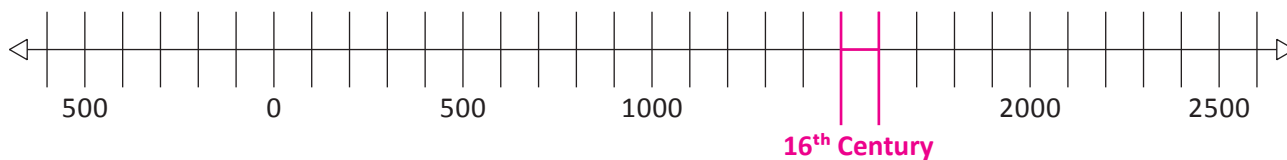
- What can be repaired rather than thrown away? In teams, make a list of things that might be repaired instead of thrown away and show it to your families!



A2 Trash Value Challenge – Time Travel: Trash



Time Travel: Trash (learning station 3)



16th Century

How did people manage waste in the 16th century during the transition from the Middle Ages to the Modern Era?

Take a close look at the picture.
What can you discover?
What would people never do nowadays?

Talk to others about it.

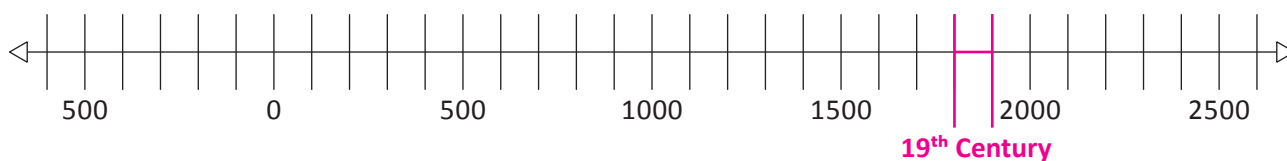


- Describe a scene from the picture without pointing to it.
Can others find what you are describing?



A2 Trash Value Challenge – Time Travel: Trash

Time Travel: Trash (learning station 4)



19th Century

Cities grew bigger and bigger and generated more and more rubbish. Since rubbish and wastewater led to the spreading of contagious diseases, rubbish was removed from the streets and mostly heaped up outside the cities.

“Ragpickers” collected torn clothes and sold them to paper mills. Old iron and other metals were melted and used to produce new things – a perfect cycle.

- What worked well in the 19th century? What didn’t work so well? How are these things handled today?
Talk about it.
- If you want to know more about the topic of “Waste in the past”, you can research online:
<https://environmentalchemistry.com/yogi/environmental/wastehistory.html>
<https://sustainingourworld.com/2011/09/22/the-past-present-and-future-of-solid-waste-disposal/>



A2 Trash Value Challenge – Time Travel: Trash



Time Travel: Trash

From the Stone Age to today

Read through the cards and order them chronologically according to the periods they describe.

Work individually or in pairs.

Read the cards to each other.



A2 Trash Value Challenge – Time Travel: Trash

Today

What can we learn from this waste management timeline?

Talk to others about it.



A2 Trash Value Challenge – Time Travel: Trash

Old Stone Age

Humans threw away only the food they couldn't eat nor process.

Furs were used to make clothing, bones to make tools, ...

Digested food was excreted anywhere, which was no problem, because the clan would simply move on.



A2 Trash Value Challenge – Time Travel: Trash

17th century

The "Kings of the Night" – a cross between waste collectors and sewer cleaners – were in charge of emptying the cesspits in Salzburg.

Because of the smell they were allowed to do their job only after 9 p.m.



A2 Trash Value Challenge – Time Travel: Trash

New Stone Age

Humans threw away only the food they couldn't eat nor process.

Since humans had become sedentary, which means they largely stayed in one place, their excretions became a problem because they smelled!



A2 Trash Value Challenge – Time Travel: Trash

1732

Berlin ruled that "waste piles in front of windows and doors be shovelled back into the houses".



A2 Trash Value Challenge – Time Travel: Trash

600 BC

The "Cloaca Maxima", the first sewer in Ancient Rome, was 4 m deep and could be navigated by boats. The refuse in the sewer was disposed of by enterprises that were financed by taxes.

The channel was cleaned by slaves and prisoners of war.



A2 Trash Value Challenge – Time Travel: Trash

1908

"Waste farmers" in Salzburg would sound bells to announce their coming.

Upon hearing the bells, household members would put their waste containers out by the curb and would bring them back inside once they had been emptied.



A2 Trash Value Challenge – Time Travel: Trash



800

Waste was simply thrown out by doors or windows in France. Pets roamed freely and their excrement was left anywhere. The roads were often covered in deep layers of mud. People would walk on stilts or wear wooden sandals with high heels. Chamber pots were emptied from the windows into the streets.



A2 Trash Value Challenge – Time Travel: Trash

1930

About ½ cubic metre of household waste per person had to be disposed of.

This volume had increased to about 4 cubic metres in 2006 – that's eight times as much...



A2 Trash Value Challenge – Time Travel: Trash

1183

The Berlin Reichstag, where politicians assembled to make important decisions for the city, collapsed into a cesspit (filled with excrement).

120 people drowned.



A2 Trash Value Challenge – Time Travel: Trash

1933

A report by a city administration reads:

“... it has happened repeatedly that a mere cobblestone left by the side of the road turned into a rubbish pile, growing to a volume of several cubic metres within a week ...”



A2 Trash Value Challenge – Time Travel: Trash

1350

People in Munich were required to remove “faeces and rubbish” from in front of their houses within three days.

Pouring “unclean” substances from doors or windows was prosecuted.



A2 Trash Value Challenge – Time Travel: Trash

1936

Garbage trucks were emptied into the ocean in New York.

16.000 truckloads a day were disposed of in this manner.



A2 Trash Value Challenge – Time Travel: Trash

1678

The “Cleaning Act” of the city of Salzburg prohibited pouring the pots from “secret chambers” directly into the streets. Excrement had to be “buried underground”. It was forbidden to leave rubbish in the streets or city squares. Instead, people had to throw it into running waters in the mornings or evenings.



A2 Trash Value Challenge – Time Travel: Trash

Middle Ages

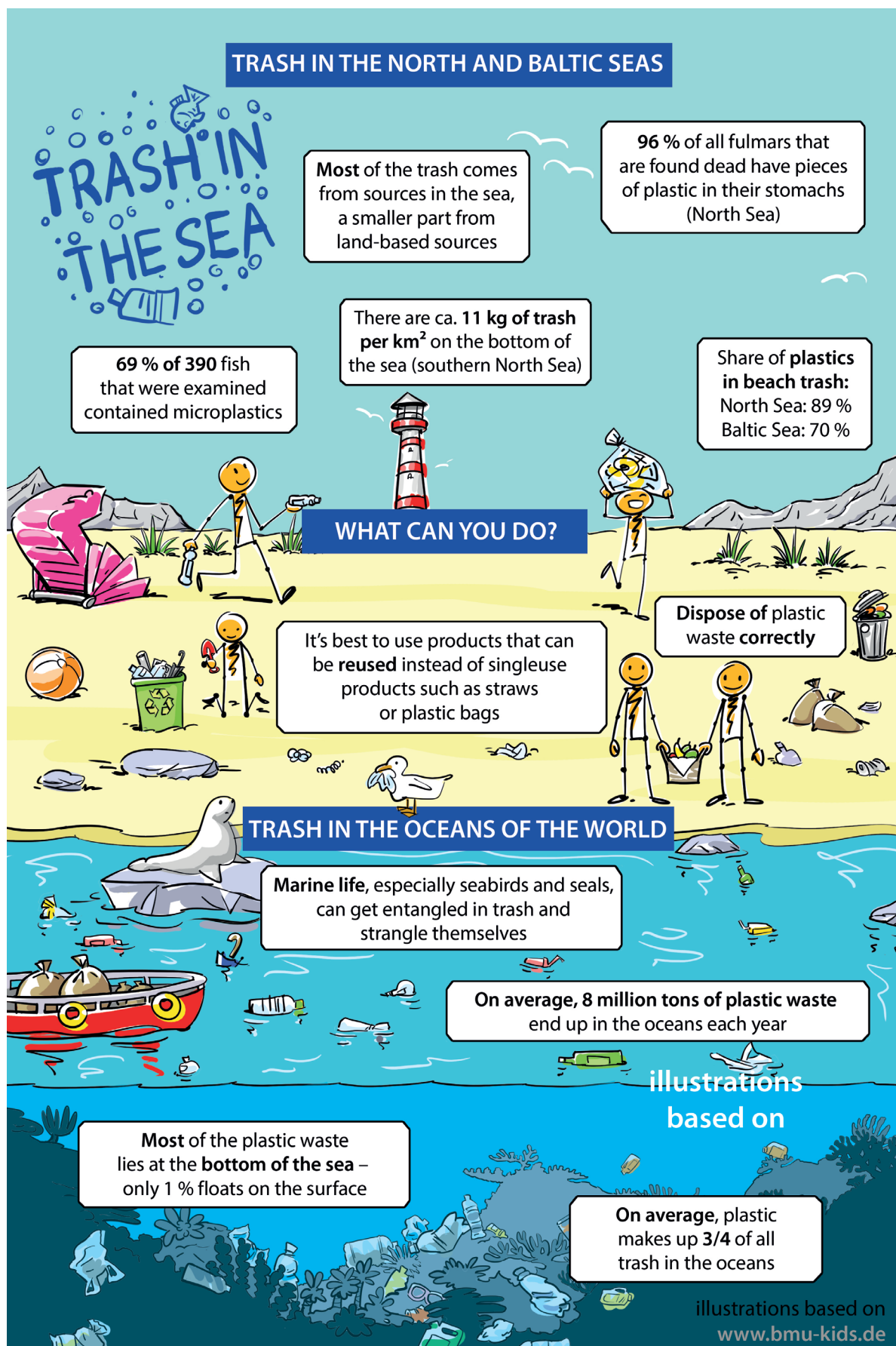
Pigs were driven through the streets of Munich. They would eat anything they could find. The idea turned out to be problematic in the end because the pigs themselves naturally produced a lot of dirt.



A2 Trash Value Challenge – Time Travel: Trash

Sources:

- Living with waste – From Ancient Rome to the Modern Era: www.umweltchecker.at/abfall.htm (in German)
- History of waste disposal: How did people dispose of their waste in earlier periods?
www.br.de/kinder/die-geschichte-der-muellabfuhr-abfall-entsorgung-kinder-lexikon-100.html (in German)





A waste check at your school

Does your school avoid and sort waste? Look for clues!

Is this true?	Yes	No
Waste is sorted at our school. On the premises there are containers for glass, wastepaper, plastic bottles, organic waste, ...		
We sort waste in the classroom by putting it into the appropriate bins.		
We don't drink from disposable bottles but bring reusable bottles to school.		
Our school mostly uses recycled paper.		
We use both sides of a sheet of paper.		
When buying groceries for cooking lessons, we try to avoid waste caused by unnecessary packaging material.		

The more questions you can answer with a YES, the better! For questions you have answered with a NO, discuss further possibilities to avoid or sort waste with your classmates, teachers and parents.

→ Idea based on: www.umweltchecker.at (website in German, source: Austrian Institute of Ecology)



A2 Trash Value Challenge – "Trash Detective" cards

Avoiding waste is easy for clever kids!

Match the items that go together!

Paper

Packaging (tin foil, milk cartons, plastic bottles, plastic bags,...)

Organic waste

Plastic

Batteries

Glass (bottles, jars)

Bring a bag or a backpack when you go shopping.

Use rechargeable batteries.

Use both sides.

Throw it on a compost heap so that it can generate new soil.

Use reusable bottles.

Use reusable lunch boxes and bottles.



A2 Trash Value Challenge – "Trash Detective" cards



“Reckoning” at the hot dog stand!

Who is ready to observe a hot dog stand or a food truck for one hour, taking notes?

- Please tell the vendors what you are doing and why!
- In separate lists, note how many paper plates, plastic plates, plastic cups, paper cups, plastic forks, wooden forks, napkins and bottles are thrown away.
- How many things are put into recycling bins? → list A
- How many things are put into general rubbish bins? → list B
- How many things end up on the floor around the stand or truck? → list C

Calculate (in your notebook)

- A discarded paper plate weighs about five grams.
What is the total weight of all the paper plates thrown away during 12 hours?
- If one paper plate is 10×20 cm in size, what is the total surface area of all the paper plates discarded during 12 hours, lined up one after the other?



A2 Trash Value Challenge – “Trash Detective” cards

Give things a longer life!

If you have old things you don’t need anymore, don’t throw them away.
Somebody else will surely appreciate them.

At home, find things you don’t need anymore and think about what to do with them.

- Organise a swap party for clothes or other things in class.
- Plan and organise a flea market. Together, think about what you want to do with the proceeds.
- **UP**cycle objects that nobody wants and that cannot be recycled.
 - Use them to make creative works of art or practical objects.
 - Exhibit your creations.
- Do you have any more ideas? Think about it and present your ideas to others.



A2 Trash Value Challenge – “Trash Detective” cards



Trash Tile Game: WHAT goes WHERE?

For used resources to be reused and processed, waste needs to be sorted correctly. By sorting and recycling waste we can spare natural resources, help **save energy** and contribute to **climate protection**.

The details of local sorting and recycling rules may differ. If you are unsure about something, you can ask your teacher about the local rules or research them online.

What you'll need to do:

- Copy the fact sheet. (Put it up next to your waste bins, where everyone can see it!)
- Cut out and label 9 dumpsters.
- Cut out the cards with waste items.
Is there anything else that sometimes lands in your waste bins?
Write down any such things on the empty cards.

Here's how it works:

- Put the cards down on the right dumpsters.



Tin foil	Cat litter	Batteries
Magazines	Furniture and furniture components	Mineral oil
Crystal tableware	Food	



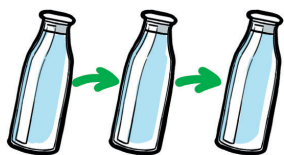
Trash Tile Game: Instructions and cards



Glass bottles	Jam jars	Chemicals
Prescription drugs	PET bottles	Newspapers
Cardboard	Cans	Computers
Yogurt cups	Ashes	Plant protection
Bottle caps	Exercise books	Tin lids
Bathtubs	Books	Mobile phones
Paint and varnish	Greaseproof paper	Laundry detergent bottles
Tea bags	Hygiene products (pads, tampons, ...)	TV sets
Toasters	Mirror glass	Cut flowers
Cleaning agents	Fruit and vegetable waste	Crisps & snack packaging
Pickles jars	Glossy catalogues	Lightbulbs

EXPERTS RECYCLE CORRECTLY!

WHAT GOES WHERE AND WHY?



Bottle bank

Glass can be recycled any number of times.

Wastepaper container

Wastepaper is the most important resource for the paper industry. Most paper and cardboard packaging is largely or exclusively made from wastepaper.

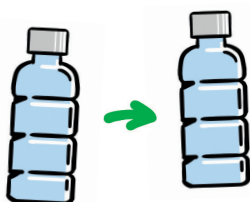
Scrap metal container

If **scrap metal** is reused, much energy can be saved compared to the production of new metal from ores.



Plastic waste container

Fibres and granulates can be produced from many kinds of **plastic**. These resources can be used to create a variety of new products. Parts of used PET bottles can be turned into new PET bottles.



Organic waste bin

Sorted **organic waste** is composted. Compost can be used to fertilise soil in an environmentally friendly manner. Unfortunately, much organic waste is still put into residual waste bins.

Electronic waste

Used electronics contain valuable resources, but also hazardous materials that need to be disposed of properly. Used electronic devices can be brought to recycling centres or returned to retailers free of charge with the purchase of a new device.



Hazardous waste

Hazardous waste is any dangerous waste generated by households. These materials are processed or burned in special facilities and must not be disposed of with residual waste. Batteries and battery packs can also be returned to retailers.



Bulky waste

This kind of waste is too bulky for residual waste bins and needs to be collected and processed separately.

Residual waste bin

Residual waste cannot be recycled. With better waste sorting, however, up to 60 % of the content of residual waste bins could still be recycled. Residual waste is the waste that remains once all recyclable materials have been removed.



Clothing and toys

Any usable **old clothing and toys** can be passed on. Anything that can't be used anymore should go into residual waste bins.


Cooking oil

There are separate containers for used **cooking oil**. Oil should NOT be put into residual waste bins and NEVER poured down the drain!


Fortunately, more and more products are made from biodegradable materials. If these products are disposed of correctly, they turn into new soil. This makes them environmentally friendly.






 A2 Trash Value Challenge – Trash Tile Game



 A2 Trash Value Challenge – Trash Tile Game



 A2 Trash Value Challenge – Trash Tile Game



Waste ABC:

For each letter, write down a word that reminds you of waste or something that contributes to waste avoidance.

A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
L	
M	
N	
O	
P	
Q	
R	
S	
T	
U	
V	
W	
X	
Y	
Z	



Sounds like trash

What do these words mean? Write down their meaning. Look up any words that you are not sure about.

ash	
bash	
cache	
cash	
clash	
crash	
dash	
flash	
gnash	
lash	
rash	
sash	
slash	
smash	
splash	
thrash	



Checklist for the presentation of objects created from trash

- Give your object a funny name.
- Briefly describe ...
 - what your object represents.
 - how you came up with the idea.
 - what your object is made of.
 - how you made it.
- How could people use your object?
- What makes it practical and valuable?
- For whom is it valuable and why?



Checklist for the presentation

Consider these tips for your presentation. Make a check mark behind everything you were able to do well.

I took a deep breath before I started to speak.	
I stood up straight.	
I spoke loudly enough for everybody to understand what I was saying.	
I spoke slowly and paused briefly between sentences.	
I maintained eye contact with my audience.	
I smiled.	
After the presentation, I asked if anyone had a question.	

This list will also help you give others feedback about their presentations.

Make sure you express your observations in a friendly tone that will encourage others to keep improving.

If you try to put yourself in their place, this will surely be easy.

Celebrate your progress together!

You can for instance say:

- I think you were a little nervous.
- I was able to understand you very well, because you paused between the sentences.
- Unfortunately, I didn't understand everything you said, because you spoke very softly.
- It's a shame you looked at your notes all the time. I would have loved to give you smile!
- I had some questions, but you didn't ask for any questions.

Additional activity:

- Trash Value Festival for children and teenagers in Austria: www.ifte.at/trashvalue (German only)

Links for further reading:

- Waste in the past:
<https://environmentalchemistry.com/yogi/environmental/wastehistory.html>
<https://sustainingourworld.com/2011/09/22/the-past-present-and-future-of-solid-waste-disposal/>
- Sewers and wastewater:
<http://www.sewerhistory.org/>
<https://thinkbeforeyouflush.org/what-to-flush/>
- Tips for avoiding or reducing waste:
<https://www.epa.gov/recycle/reducing-waste-what-you-can-do>
<https://ksenvironmental.com.au/10-tips-on-how-to-avoid-or-reduce-waste/>
<https://myplasticfreelife.com/plasticfreeguide/>
- Videos and lesson plans on the topic of waste:
www.norwexmovement.com/kids/videos-lesson-plans/

Recommended videos:

- On plastic:
What really happens to the plastic you throw away / Life of a Plastic Bottle: www.youtube.com/watch?v=6xINyWPpB8 (ca. 4 min.)
A Plastic Ocean (kids' version): www.youtube.com/watch?v=3EgyvqMXODc
The Story of a Spoon (Greenpeace International): www.youtube.com/watch?v=eg-E1FtjaxY
10 Simple Ways To Reduce Plastic Use – For Kids!: www.youtube.com/watch?v=XVUux3boWk
- On the 17 Sustainable Development Goals (SDGs):
The World's largest lesson: www.youtube.com/watch?v=cBxN9E5f7pc

All Challenges of level A2 are also available in a printed version in German.

You can find them at www.jugendstaerken.at (Jugend stärken, volume 1 - 4).



Empowering Youth is a holistic learning programme for lower secondary school students. It is part of the “Youth Start Entrepreneurial Challenges” programme.

All **competence levels (from A1 = primary level to B2 = secondary level II)** can be downloaded for free at www.youthstart.eu in **German, English** and, in some cases, in five other languages.

The “**Mind & Body**” section provides short video clips with physical “activate & concentrate” exercises and the *Youth Start mindfulness programme*.



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